

STATEMENT OF BASIS

as required by LAC 33:IX.3109 for LPDES facilities where a fact sheet is not required under LAC 33:IX.3311, for draft Louisiana Pollutant Discharge Elimination System Permit No. LA0123633; AI 150778; PER20070001 to discharge to waters of the State of Louisiana as per LAC 33:IX.2311.

The **permitting authority** for the Louisiana Pollutant Discharge Elimination System (LPDES) is:

Louisiana Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

I. **THE APPLICANT IS:** Mo-Dad Utilities, LLC
 Pecue Place Subdivision Wastewater Treatment Plant
 P.O. Box 790
 Denham Springs, LA 70727

II. **PREPARED BY:** Angela Marse

DATE PREPARED: April 21, 2008

III. **PERMIT ACTION:** LPDES permit LA0123633, AI 150778; PER20070001

LPDES application received: May 24, 2007
LPDES permit issued: none issued

IV. **FACILITY INFORMATION:**

A. The application is for the discharge of treated sanitary wastewater from a privately owned treatment works serving Pecue Place Subdivision.

B. The permit application does not indicate the receipt of industrial wastewater.

C. The facility is located east of Pecue Lane at Perkins Road in Baton Rouge, East Baton Rouge Parish.

D. The treatment facility consists of an extended aeration treatment plant. Disinfection is by chlorination.

E. Outfall 001

 Discharge Location: Latitude 30° 21' 35" North
 Longitude 91° 3' 15" West

 Description: treated sanitary wastewater

 Type of Flow Measurement which the facility is required to have: Continuous Recorder

 Expected flow: 0.29 MGD

 Please note that if the facility grows to a discharge beyond the design capacity of the facility, additional sewage treatment may be required with prior approval of the facility's plan by the Louisiana Department of Health and Hospitals and notification must be submitted to the LDEQ. Also, if the expected flow reaches or exceeds the design capacity of the facility, a permit modification may be required.

Statement of Basis

LA0123633; AI 150778; PER20070001

Page 2

Calculations for gallons per day were based upon figures obtained from Chapter 15 of the State of Louisiana Sanitary Code, Department of Health and Hospitals, Office of Public Health.

V. RECEIVING WATERS:

The discharge is into Ward's Creek, thence into Bayou Manchac, thence into the Amite River in segment 040201 of the Lake Ponchartrain Basin. This segment is listed on the 303(d) list of impaired waterbodies.

The designated uses and degree of support for Segment 040201 of the Lake Ponchartrain Basin are as indicated in the table below^{1/}:

Overall Degree of Support for Segment 040201	Degree of Support of Each Use						
	Primary Contact Recreation	Secondary Contact Recreation	Propagation of Fish & Wildlife	Outstanding Natural Resource Water	Drinking Water Supply	Shell fish Propagation	Agriculture
Not Supported	Not Supported	Not Supported	Not Supported	N/A	N/A	N/A	N/A

^{1/}The designated uses and degree of support for Segment 040201 of the Lake Ponchartrain Basin are as indicated in LAC 33:IX.1123.C.3, Table (3) and the 2004 Water Quality Management Plan, Water Quality Inventory Integrated Report, Appendix A, respectively.

Section 303 (d) of the Clean Water Act, as amended by the Water Quality Act of 1987 and EPA's regulations at 40 CFR 130, require that each state identify those waters within its boundaries not meeting water quality standards. The Clean Water Act further requires states to implement plans to address impairments. LDEQ is developing Total Maximum Daily Loadings Studies (TMDLs) to address impaired waterbodies. Segment 040201 of the Lake Pontchartrain Basin is on the 2006 Integrated 303(d) List of Impaired Waterbodies. Causes of impairment are ammonia, phosphorus, nitrogen, organic enrichment/low DO, chlorides, sulfates, total dissolved solids, and pathogen indicators. To date no TMDLs have been completed for this waterbody.

Suspected causes of impairment are addressed in the permit in a manner consistent with the Department's permitting guidance for implementing Louisiana's surface water quality standards as follows:

Dissolved oxygen

Biochemical oxygen demand (or BOD) is the amount of oxygen required by bacteria to oxidize biologically degradable material (normally organic matter) found in wastewater, effluents, and polluted waters. The test measures the amount of oxygen consumed by a sample by naturally occurring bacteria over a five-day period. Monitoring for biochemical oxygen demand is the best indicator by which to measure the potential discharge of oxygen consuming pollutants at levels that will result in dissolved oxygen below that of state water quality standards. Therefore, to protect against potential discharges resulting in DO levels below that of state water quality standards for the receiving waterbody, CBOD₅ limits have been placed in the permit. (Because ammonia nitrogen limits have also been placed in the permit, CBOD₅ has been substituted for BOD₅. This inhibits biological activity associated with nitrogen and prevents overestimate of oxygen demand.) In addition to monitoring for CBOD₅, dissolved oxygen

Statement of Basis

LA0123633; AI 150778; PER20070001

Page 3

is also limited in the permit. This is an instantaneous minimum to ensure the discharge will not create or contribute to oxygen levels below State standards in the receiving waterbody.

Ammonia, nitrogen, and phosphorus

Ammonia, nitrogen, and phosphorus are considered nutrients. Nutrients can result in the consumption of dissolved oxygen in the receiving stream making it less available for aquatic life. This Office utilizes ammonia nitrogen as an indicator by which to monitor for the potential presence of nutrients remaining in a waste stream after the treatment process. To protect against the discharge of nutrients into the receiving waterbody at levels which exceed state water quality standards, ammonia nitrogen limits have been placed in the permit.

Pathogen Indicators

Monitoring for fecal coliform is the best indicator for the potential presence of pathogenic organisms in wastewater. To protect against potential receiving water impairments due to pathogens, fecal coliform limits have been established in the permit. Permit limits are reflective of water quality standards for primary contact recreation, a designated use of the receiving stream.

Chlorides, sulfates, and TDS

Chlorides, sulfates, and TDS are suspected causes of impairments. The source of these impairments has been determined to be land development and site clearing. However, sanitary treatment plants can contribute to these impairments as well. Effluent limits were derived for these pollutants to address impairments. Limits are based on the estimated flow of the discharge, the harmonic mean flow of the receiving stream after the mixing zone, and water quality criteria for Bayou Manchac (25mg/l Chlorides, 10mg/l Sulfates, and 150mg/l TDS). This is consistent with previously issued individual permits.

VI. ENDANGERED SPECIES:

The receiving waterbody, Subsegment 040201 is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated October 24, 2007 from Boggs (FWS) to Brown (LDEQ). Therefore, in accordance with the Memorandum of Understanding between LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required.

VII. HISTORIC SITES:

The discharge will be from a new facility. LDEQ has consulted with the State Historic Preservation Officer (SHPO) in a letter dated May 25, 2007 to determine whether construction-related activities could potentially affect sites or properties on or eligible for listing on the National Register of Historic Places. SHPO's response, dated July 3, 2007 stated that the facility as proposed will have no potential effects.

VIII. PUBLIC NOTICE:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit modification and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the statement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation
Office of Environmental Services Public Notice Mailing List

Statement of Basis

LA0123633; AI 150778; PER20070001

Page 4

For additional information, contact:

Mrs. Angela Marse
Permits Division
Department of Environmental Quality
Office of Environmental Services
P. O. Box 4313
Baton Rouge, Louisiana 70821-4313

IX. PROPOSED PERMIT LIMITS:**Final Effluent Limits:****OUTFALL 001**

The facility is a new discharger into an impaired stream not meeting its designated uses. New or expanding discharges in excess of 100,000 gallons per day should have appropriate effluent limitations that prevent impact on the impaired stream. According to LDEQ's Pre-TMDL Permitting Strategy (December, 2003), this Office will issue permits that 1.) maintain water quality of impaired streams and 2.) include a reopener clause in the permit to allow for more stringent limits if necessary. Maintaining water quality at existing levels means there will not be any additional significant contribution of pollutants to the waterbody. As stated in the letter from Ferguson (EPA) to Region 6 Program Manager dated 1/6/03, a discharger meeting effluent limits of 5mg/l CBOD₅, 5 mg/l TSS, 2mg/l ammonia-nitrogen, and 5 mg/l dissolved oxygen would not cause or contribute to existing impairments. Following finalization of the TMDL, the treatment level required by the TMDL could then be implemented. Therefore, a reopener statement has been included in the permit. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions as a result of the TMDL.

Final limits shall become effective on the effective date of the permit and expire on the expiration date of the permit.

Effluent Characteristic	Monthly Avg. (lbs./day)	Monthly Avg.	Weekly Avg.	Basis
CBOD ₅	12	5 mg/l	10 mg/l	Best Professional Judgement (BPJ) based on the letter from Ferguson (EPA) to Region 6 Program Managers dated 1/06/03.
TSS	12	5 mg/l	10 mg/l	Best Professional Judgement (BPJ) based on the letter from Ferguson (EPA) to Region 6 Program Managers dated 1/06/03.
Ammonia-Nitrogen	5	2 mg/l	4 mg/l	Best Professional Judgement (BPJ) based on the letter from Ferguson (EPA) to Region 6 Program Managers dated 1/06/03.
Dissolved Oxygen	---	5 mg/l	---	Best Professional Judgement (BPJ) based on the letter from Ferguson (EPA) to Region 6 Program Managers dated 1/06/03.

Statement of Basis

LA0123633; AI 150778; PER20070001

Page 5

Effluent Characteristic	Monthly Avg. (lbs./day)	Monthly Avg.	Weekly Avg.	Basis
Chlorides	---	81 mg/l	---	Best Professional Judgment based on receiving stream impairments, LAC33:IX.1115.C.8, and the calculations in Attachment A.
TDS	---	32 mg/l	---	Best Professional Judgment based on receiving stream impairments, LAC33:IX.1115.C.8, and the calculations in Attachment A.
Sulfates	---	484 mg/l	---	Best Professional Judgment based on receiving stream impairments, LAC33:IX.1115.C.8, and the calculations in Attachment A.

*Concentration limits are used in accordance with LAC 33:IX.2709.F.1.b which states that mass limitations are not necessary when applicable standards and limitations are expressed in other units of measurement. LAC 33:IX.709.B references LAC 33:IX.711 which express BOD₅ and TSS in terms of concentration.

**This Dissolved Oxygen limit is the lowest allowable average of daily discharges over a calendar month. When monitoring is conducted, the Dissolved Oxygen shall be analyzed immediately, as per 40 CFR 136.3.

Other Effluent Limitations:**1) Fecal Coliform**

The discharge from this facility is into a water body which has a designated use of Primary Contact Recreation. According to LAC 33:IX.1113.C.5.b.i, the fecal coliform standards for this water body are 200/100 ml and 400/100 ml. Therefore, the limits of 200/100 ml (Monthly Average) and 400/100 ml (Weekly Average) are proposed as Fecal Coliform limits in the permit. These limits are being proposed through Best Professional Judgment in order to ensure that the water body standards are not exceeded, and due to the fact that existing facilities have demonstrated an ability to comply with these limitations using present available technology.

2) pH

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units at any time. (Limits as established through BPJ considering BCT for similar waste streams in accordance with LAC 33:IX.5905.C.)

3) Solids and Foam

There shall be no discharge of floating solids or visible foam in other than trace amounts in accordance with LAC 33:IX.1113.B.7.

X. PREVIOUS PERMITS:

LPDES Permit No. LA0123633: none issued

Statement of Basis

LA0123633; AI 150778; PER20070001

Page 6

XI. ENFORCEMENT AND SURVEILLANCE ACTIONS:**A) Inspections**

No inspections have been performed for the facility.

B) Compliance and/or Administrative Orders

No enforcement actions have been administered against this facility.

C) DMR Review

No discharge monitoring reports have been submitted for this facility.

XII. ADDITIONAL INFORMATION:**PERMIT REOPENER CLAUSE**

In accordance with LAC 33:IX.2707.C, this permit may be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitations issued or approved under sections 301(b)(2)(c) and (D); 304(b)(2); and 307(a)(2) of the Clean Water Act, if the effluent standard or limitations so issued or approved:

- a) Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
- b) Controls any pollutant not limited in the permit; or
- c) Requires reassessment due to change in 303(d) status of the waterbody; or
- d) Incorporates the results of any total maximum daily load allocation, which may be approved for the receiving water body. The LDEQ will be conducting TMDLs in the Lake Pontchartrain Basin Segment 040201. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions as a result of the TMDL. Therefore, prior to upgrading or expanding this facility, the permittee should contact the Department to determine the status of the work being done to establish future effluent limitations and additional permit conditions.

Final effluent loadings (i.e. lbs/day) have been established based upon the permit limit concentrations and the design capacity of 0.29 MGD.

Effluent loadings are calculated using the following example:

$$\text{BOD: } 8.34 \text{ lb/gal} \times 0.29 \text{ MGD} \times 5 \text{ mg/l} = 12 \text{ lb/day}$$

At present, the **Monitoring Requirements, Sample Types, and Frequency of Sampling** as shown in the permit are standard for facilities of flows between 0.1 and 0.5 MGD.

Statement of Basis

LA0123633; AI 150778; PER20070001

Page 7

XIII TENTATIVE DETERMINATION:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to issue a permit for the discharge described in this Statement of Basis.

XIV REFERENCES:

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 8, "Wasteload Allocations / Total Maximum Daily Loads and Effluent Limitations Policy," Louisiana Department of Environmental Quality, 2005.

Louisiana Water Quality Management Plan / Continuing Planning Process, Vol. 5, "Water Quality Inventory Section 305(b) Report," Louisiana Department of Environmental Quality, 1998.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Chapter 11 - "Louisiana Surface Water Quality Standards," Louisiana Department of Environmental Quality, 2004.

Louisiana Administrative Code, Title 33 - Environmental Quality, Part IX - Water Quality Regulations, Subpart 2 - "The LPDES Program," Louisiana Department of Environmental Quality, 2004.

Low-Flow Characteristics of Louisiana Streams, Water Resources Technical Report No. 22, United States Department of the Interior, Geological Survey, 1980.

Index to Surface Water Data in Louisiana, Water Resources Basic Records Report No. 17, United States Department of the Interior, Geological Survey, 1989.

LPDES Permit Application to Discharge Wastewater, Mo-Dad Utilities, Pecue Place, May 24, 2007.